

REMARKS

This is a full and timely response to the nonfinal Office Action of December 29, 2004.

Reconsideration and allowance of the application and all presently pending claims are respectfully requested.

Upon entry of this Response, claims 1-7, 9-27, 29, and 53-96 are pending in this application.

Claims 25, 26, and 29 have been amended and claim 30-52. The prior art made of record has been considered, but is not believed to affect the patentability of the presently pending claims. Applicants believe that no new matter has been added and that a new search is not necessary.

CLAIMS

Claim Rejections

The 35 U.S.C. 112, second paragraph, rejection of claims 25-27 and 29 should be withdrawn because Applicants have amended claims 25, 26, and 29 to overcome each rejection.

Applicants wish to clarify that the foregoing amendments are cosmetic in nature and are not made as a condition for obtaining a patent. Applicants further submit that these amendments are non-narrowing and, pursuant to *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 122 S. Ct. 1831 (2002), no prosecution history estoppel arises from this amendment. *See also Black & Decker, Inc. v. Hoover Svc. Ctr.*, 886 F.2d 1285, 1294 n. 13 (Fed. Cir. 1989); *Andrew Corp. v. Gabriel Elec., Inc.*, 847 F.2d 819 (Fed. Cir. 1988); *Hi-Life Prods. Inc. v. Am. Nat'l Water-Mattress Corp.*, 842 F.2d 323, 325 (Fed. Cir. 1988); *Mannesmann Demag Corp. v. Eng'd. Metal Prods. Co., Inc.*, 793 F.2d 1279, 1284-1285 (Fed. Cir. 1986); *Moeller v. Ionetics, Inc.*, 794 F.2d 653 (Fed. Cir. 1986).

Claims 1 and 53-58

Claims 1 and 53-58 are rejected under 35 U.S.C. §102(e) as purportedly being anticipated by Chee *et al.* (U.S. Patent 6,544,732). Claim 1 reads as follows:

1. A structure, comprising:

a nanospecies having a first characteristic and a second detectable characteristic, wherein a second detectable energy is produced corresponding to the second detectable characteristic upon exposure to a first energy; and

a porous material having the first characteristic and a plurality of pores, wherein the first characteristic of the nanospecies and the first characteristic of the porous material are the same, where the interaction of the first characteristic of the nanospecies with the first characteristic of the porous material cause the nanospecies to interact with the porous material and become disposed in the pores of the porous material, and *wherein the first characteristic is selected from a hydrophobic characteristic, a hydrophilic characteristic, an electrostatic characteristic, and combinations thereof.*

(Emphasis added). Applicants traverse the rejection noted above and submit that the rejection of claim 1 under 35 U.S.C. §102 (e) in view of Chee, should be withdrawn because Chee does not disclose, teach, or suggest at least the highlighted portions in claim 1 above. In particular, Chee refers to a substrate in col. 7, lines 24-28 and 40-54, and Chee refers to nanocrystals and porous silica in col. 3, lines 34-36. Chee does not teach “a porous material being hydrophobic (col. 7, lines 40-54), silica (col. 3, lines 34-36), and having a plurality of pores (col. 3, lines 34-36).” In other words, Chee does not teach or suggest “a nanospecies having a first characteristic... a porous material having the first characteristic... wherein the first characteristic is selected from a hydrophobic characteristic, a hydrophilic characteristic, an electrostatic characteristic, and combinations thereof” as recited in claim 1. Chee refers to a substrate and microspheres in col. 7, lines 40-54, and does not refer to nanocrystals at this point. The Office Action appears to have incorrectly applied the meanings of substrate, microsphere, and nanocrystal, as they are used in Chee, and incorrectly applied a discussion relating to the substrate and the microsphere to the microsphere and the nanocrystal. Chee discusses

nanocrystals in col. 15, lines 35-60, and describes the incorporation of the nanocrystals into the microsphere by physically swelling the microspheres so that the nanocrystals can move into the pores, but does not use interactions between the first characteristic of the nanospecies and the first characteristic of the porous material to attract the nanospecies into the pores as described in claim 1. As further proof that the nanocrystals are not held into place by any first characteristic interactions, Chee states that the nanocrystals are “physically trapped inside” the pores (col. 15, lines 55-56). Indeed, Chee specifically teaches sealing the pores of the silica (col. 3 lines 35-36). Therefore, Chee does not describe the first characteristic interactions described above in claim 1.

Furthermore, Chee does not teach, disclose, or suggest, “wherein the interaction of the first characteristic of the nanospecies with the first characteristic of the porous material cause the nanospecies to interact with the porous material and become disposed in the pores of the porous material”, as recited in claim 1. As described above, the Office Action appears to have incorrectly applied the meanings of substrate, microsphere, and nanocrystal, as they are used in Chee, and incorrectly applied a discussion relating to the substrate and the microsphere to the microsphere and nanocrystal. In addition, the silica that Chee is referring to in col. 3, lines 34-36 actually seals the pores, which would make it impossible for nanospecies as claimed in claim 1 to “become disposed in the pores of the porous material.”

The Office Action’s reference to Chee teaching “disposal occurs through electrostatic forces (col. 6, lines 30-40; col., 7, lines 35-41)” is incorrect. As described above, the Office Action appears to have incorrectly applied the meanings of substrate, microsphere, and nanocrystal, as they are used in Chee, and incorrectly applied a discussion relating to the substrate and the microsphere to the microsphere and nanocrystal.

Thus, Chee does not disclose, teach, or suggest, at least the limitations highlighted above in claim 1, and therefore, the rejection to claim 1 should be withdrawn.

In addition, the rejection of amended claims 53-58 should be withdrawn for the same reasons as claim 1.

Claims 2-7 and 9-27

Applicants respectfully submit that pending dependent claims 2-7 and 9-27 include every feature of independent claim 1 and that Chee fails to disclose, teach, or suggest, individually or in combination, at least the features of claim 1 highlighted hereinabove. Thus, pending dependent claims 2-7 and 9-27 are also allowable over the prior art of record. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 74

Claim 74 is rejected under 35 U.S.C. §102(e) as purportedly being anticipated by Chee *et al.* (U.S. Patent 6,544,732). Claim 74 reads as follows:

74. A structure, comprising:

a nanospecies having a first characteristic and a second detectable characteristic, wherein the nanospecies is selected from a semiconductor quantum dot, a metal nanoparticle, and a magnetic nanoparticle, and wherein a second detectable energy is produced corresponding to the second detectable characteristic upon exposure to a first energy; and

a porous material having the first characteristic and a plurality of pores, wherein the porous material is made of a material selected from a metal, a silica material, ceramic, zeolite, and combinations thereof, *wherein the first characteristic of the nanospecies and the first characteristic of the porous material are the same*, wherein the interaction of the first characteristic of the nanospecies with the first characteristic of the porous material cause the nanospecies to interact with the porous material and become disposed in the pores of the porous material, and *wherein the first characteristic is selected from a hydrophobic characteristic, a hydrophilic characteristic, and an electrostatic characteristic*.

(Emphasis added). Applicants traverse the rejection noted above and submit that the rejection of claim 74 under 35 U.S.C. §102 (e) in view of Chee, should be withdrawn for at least the reason that Chee does not disclose, teach, or suggest the highlighted portions in claim 74 above. In particular, Chee refers to a substrate in col. 7, lines 40-54, while Chee refers to nanocrystals and porous silica in col. 3, lines 34-36. Chee does not teach “a porous material being hydrophobic (col. 7, lines 40-54), silica (col. 3, lines 34-36), and having a plurality of pores (col. 3, lines 34-36).” In other words, Chee does not teach or suggest “a nanospecies having a first characteristic... a porous material having the first characteristic... wherein the first characteristic is selected from a hydrophobic characteristic, a hydrophilic characteristic, an electrostatic characteristic, and combinations thereof” as recited in claim 74. Chee refers to a substrate and microspheres in col. 7, lines 40-54, and does not refer to nanocrystals at this point. The Office Action appears to have incorrectly applied the meanings of

substrate, microsphere, and nanocrystal, as they are used in Chee, and incorrectly applied a discussion relating to the substrate and the microsphere to the microsphere and the nanocrystal. Chee discusses nanocrystals in col. 15, lines 35-60, and describes the incorporation of the nanocrystals into the microsphere by physically swelling the microspheres so that the nanocrystals can move into the pores, but does not use interactions between the first characteristic of the nanospecies and the first characteristic of the porous material to attract the nanospecies into the pores as described in claim 74. As further proof that the nanocrystals are not held into place by any first characteristic interactions, Chee states that the nanocrystals are “physically trapped inside” the pores (col. 15, lines 55-56). Therefore, Chee does not describe the first characteristic interactions described above in claim 74.

Furthermore, Chee does not teach, disclose, or suggest, “where the interaction of the first characteristic of the nanospecies with the first characteristic of the porous material cause the nanospecies to interact with the porous material and become disposed in the pores of the porous material” as recited in claim 74. As described above, the Office Action appears to have incorrectly applied the meanings of substrate, microsphere, and nanocrystal, as they are used in Chee, and incorrectly applied a discussion relating to the substrate and the microsphere to the microsphere and nanocrystal. In addition, the silica that Chee is referring to in col. 3, lines 34-36 actually seals the pores, which would make it impossible for nanospecies as claimed in claim 74 to “become disposed in the pores of the porous material.”

The Office Action’s reference to Chee teaching “disposal occurs through electrostatic forces (col. 6, lines 30-40; col., 7, lines 35-41)” is not an accurate description of Chee. As described above, the Office Action appears to have incorrectly applied the meanings of substrate, microsphere, and

nanocrystal, as they are used in Chee, and incorrectly applied a discussion relating to the substrate and the microsphere to the microsphere and nanocrystal.

Thus, Chee does not disclose, teach, or suggest, at least the limitations highlighted above in claim 74, and therefore, the rejection to claim 74 should be withdrawn.

Claims 75-96

Applicants respectfully submit that pending dependent claims 75-96 include every feature of independent claim 74 and that Chee fails to disclose, teach, or suggest at least the features of claim 74 highlighted hereinabove. Thus, pending dependent claims 75-96 are also allowable over the prior art of record.

Claim 59

Claim 59 is rejected under 35 U.S.C. §103(a) as purportedly being anticipated by Chee in view of Girot *et al.* (U.S. Patent 5,268,097). Claim 59 reads as follows:

59. A structure, comprising:

a hydrophobic coated semiconductor quantum dot, wherein the coating includes a hydrophobic compound coated on the semiconductor quantum dot, wherein the hydrophobic coated semiconductor quantum dot has a second detectable characteristic, and wherein a second detectable energy is produced corresponding to the second detectable characteristic upon exposure to a first energy; and

a silica material having a hydrocarbon-derivatized surface and having a plurality of pores, wherein the surface of the silica material is hydrophobic, wherein the hydrophobicity of the hydrophobic coated semiconductor quantum dot and the hydrophobicity of the silica material cause the hydrophobic coated semiconductor quantum dot to interact with the silica material and become disposed in the pores of the silica material.

(Emphasis Added) Applicants traverse the rejection noted above and submit that the rejection of claim 59 under 35 U.S.C. §103 (a) in view of Chee and Girot, should be withdrawn for at the least the reason that Chee and Girot, individually or in combination, do not disclose, teach, or suggest the highlighted portions in claim 59 above. In particular, Chee refers to a substrate in col. 7, lines 40-54, while Chee refers to nanocrystals and porous silica in col. 3, lines 34-36. Chee does not teach “a porous material being hydrophobic (col. 7, lines 40-54), silica (col. 3, lines 34-36), and having a plurality of pores (col. 3, lines 34-36).” In other words, Chee does not teach or suggest “a hydrophobic coated semiconductor quantum dot … a silica material having a hydrocarbon-derivatized surface …” as recited in claim 59. Chee refers to a substrate and microspheres in col. 7, lines 40-54, and does not refer to nanocrystals at this point. The Office Action appears to have incorrectly applied the meanings of substrate, microsphere, and nanocrystal, as they are used in Chee, and incorrectly applied a discussion relating to the substrate and the microsphere to the microsphere and nanocrystal.

Chee discusses nanocrystals in col. 15, lines 35-60, and describes the incorporation of the nanocrystals into the microsphere by physically swelling the microspheres so that the nanocrystals can move into the pores, but does not use hydrophobic interactions between the hydrophobic coated semiconductor quantum dot and the silica material having a hydrocarbon-derivatized surface to attract the quantum dots into the pores as described in claim 59. As further proof that the nanocrystals are not held into place by any first characteristic interactions, Chee states that the nanocrystals are “physically trapped inside” the pores (col. 15, lines 55-56). Therefore, Chee does not describe the first characteristic interactions recited above in claim 59.

Furthermore, Chee does not teach, disclose, or suggest, “wherein the hydrophobicity of the hydrophobic coated semiconductor quantum dot and the hydrophobicity of the silica material cause the hydrophobic coated semiconductor quantum dot to interact with the silica material and become disposed in the pores of the silica material” as recited in claim 59. As described above, the Office Action appears to have incorrectly applied the meanings of substrate, microsphere, and nanocrystal, as they are used in Chee, and incorrectly applied a discussion relating to the substrate and the microsphere to the microsphere and nanocrystal. In addition, the silica that Chee is referring to in col. 3, lines 34-36 actually seals the pores, which would make it impossible for hydrophobic coated semiconductor quantum dot as recited in claim 59 to “become disposed in the pores of the silica material.”

The Office Action’s reference to Chee teaching “disposal occurs through electrostatic forces (col. 6, lines 30-40; col., 7, lines 35-41)” is not an accurate description of Chee. As described above, the Office Action appears to have incorrectly applied the meanings of substrate, microsphere, and nanocrystal, as they are used in Chee, and incorrectly applied a discussion relating to the substrate and the microsphere to the microsphere and nanocrystal.

The Applicant would also note that Girot does not include a col. 44 as referenced in the Office Action, so the Applicant could not determine the accuracy of the Office Action's statement. The Applicant requests for at least this reason that this Office Action should not be Final because the Applicant could not determine the accuracy of the Office Actions arguments.

In order for a claim to be properly rejected under 35 U.S.C. §103, the teachings of the cited art reference must suggest all features of the claimed invention to one of ordinary skill in the art. *See, e.g.*, *In re Dow Chemical*, 837 F.2d 469, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988); *In re Keller*, 642 F.2d 413, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981). Further, “[t]he PTO has the burden under section 103 to establish a *prima facie* case of obviousness. It can satisfy this burden only by showing some objective teaching in the cited art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.” *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

In order to establish the *prima facie* case of obviousness, the Examiner must establish a suggestion or motivation either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art to modify the reference or combine reference teachings in order to result in the claimed invention. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

In this regard, Applicants note that there must not only be a suggestion to combine the functional or operational aspects of the combined references, but that the Federal Circuit also requires the prior art to suggest *both* the combination of elements *and* the structure resulting from the combination. *Stiftung v. Renishaw PLC*, 945 Fed.2d 1173 (Fed. Cir. 1991). Therefore, in order to sustain an obviousness rejection based upon a combination of these three prior art references, the prior

art must properly suggest the desirability in the references themselves for combining the particular elements.

In the present case, the *prima facie* case of obviousness has not been established because there is no suggestion or motivation in the art to combine Chee with Girot. Chee does not teach, disclose or suggest a silica material having a hydrophobic surface “wherein the hydrophobicity of the hydrophobic coated semiconductor quantum dot and the hydrophobicity of the silica material cause the hydrophobic coated semiconductor quantum dot to interact with the silica material and become disposed in the pores of the silica material” as recited in claim 59. Since Chee does not describe the silica material having a hydrophobic surface that causes the hydrophobic coated semiconductor quantum dot to be disposed in the pores of the silica material due to the hydrophobic interaction, there is no motivation to combine Chee with Girot, when the Office Action states that Girot describes hydrophobic silica porous material. One skilled in the art would not look at Girot since there is no mention of the hydrophobic coated semiconductor quantum dot in Chee.

In addition, the Office Action does not show in the references themselves a suggestion or motivation to combine the references other than “to prevent non-specific binding to the porous material”, which does not appear to be relevant. The Applicant requests that the next Office Action clearly and specifically indicate the column and line in the references that show motivation to combine, the suggestion to combine the elements, and the resulting structure, as well as logic for doing so. In addition, if the basis for future rejection is that the knowledge is generally available to one of ordinary skill in the art to combine the references, Applicants request that future Office Actions direct Applicants to where this information is generally available.

For at least these reasons Applicants assert that combining Girot with Chen is improper and the Office Action has not established the *prima facie* case of obviousness. Thus, the rejection to claim 59 should be withdrawn.

Claims 60-73

Applicants respectfully submit that pending dependent claims 60-73 include every feature of independent claim 59 and that the relevant patents noted above fail to disclose, teach, or suggest at least the features of claim 59 highlighted hereinabove. Thus, pending dependent claims 60-73 are also allowable over the prior art of record.

Claims 12-16 and 84-88

In addition to the arguments discussed above for claims 12-16 and 84-88, the following describes additional reasons why claims 12-16 and 84-88 are allowable over the 35 U.S.C. §103 (a) rejection in which claims 12-16 and 84-88 are unpatentable over Chee in view of Bawendi *et al.* (6,251,303).

In the present case, the *prima facie* case of obviousness has not been established because there is no suggestion or motivation in the art to combine Chee with Bawendi. Chee does not teach, disclose or suggest a hydrophobic silica material “wherein the interaction of the first characteristic of the nanospecies with the first characteristic of the porous material cause the nanospecies to interact with the porous material and become disposed in the pores of the porous material” (independent claim 1 and 74, respectively).

In addition, Chee does not teach, disclose, or suggest “a hydrophobic coated bead comprising a semiconductor quantum dot.” As mentioned above, the Office Action appears to have incorrectly

applied the meanings of substrate, microsphere, and nanocrystal, as they are used in Chee, and incorrectly applied a discussion relating to the substrate and the microsphere to the microsphere and nanocrystal. Chee discusses nanocrystals in col. 15, lines 35-60, and describes the incorporation of the nanocrystals into the microsphere by physically swelling the microspheres so that the nanocrystals can move into the pores, but does not use interactions between the first characteristic of the nanospecies and the first characteristic of the porous material to attract the nanospecies into the pores as described in independent claims 1 and 74, repectively.

Since Chee does not describe the porous material having a first characteristic that causes the nanospecies having the first characteristic to be disposed in the pores of the porous material due to the interaction of the first characteristic of each the nanospecies and porous material, there is no motivation to combine Chee with Bawendi when the Office Action states that Bawnedi teaches a hydrophobic coated quantum dot. One skilled in the art would not look at Bawanedi since there is no mention of the first characteristic (e.g., hydrophobic) of the nanospecies in Chee.

As a result of the discussion above, the motivation to combine described in the Office Action is not applicable. Therefore, Applicants request that the next Office Action clearly and specifically point to the column and line in the references that show motivation to combine, the suggestion to combine the elements, and the resulting structure, as well as logic for doing so. In addition, if the basis for future rejection is that the combination is generally available to one of ordinary skill in the art, Applicants request that future Office Actions direct Applicants to where this information is generally available.

For at least these reasons Applicants assert that combining of *Bawendi* with Chee is improper and the Office has not established the *prima facie* case of obviousness.

Claims 17 and 89

In addition to the arguments discussed above for claims 17 and 89 (dependent upon 1 and 74, respectively), the following describes additional reasons why claims 17 and 89 are allowable over the 35 U.S.C. §103 (a) rejection in which claims 17 and 89 are unpatentable over Chee in view of Efros *et al.* (6,642,538).

In the present case, the *prima facie* case of obviousness has not been established because there is no suggestion or motivation in the art to combine Chee with Efros. Chee does not teach, disclose or suggest a hydrophobic silica material “wherein the interaction of the first characteristic of the nanospecies with the first characteristic of the porous material cause the nanospecies to interact with the porous material and become disposed in the pores of the porous material” (independent claim 1 and 74, respectively).

In addition, Chee does not teach, disclose, or suggest “a hydrophobic coated bead comprising a semiconductor quantum dot.” As mentioned above, the Office Action appears to have incorrectly applied the meanings of substrate, microsphere, and nanocrystal, as they are used in Chee, and incorrectly applied a discussion relating to the substrate and the microsphere to the microsphere and nanocrystal. Chee discusses nanocrystals in col. 15, lines 35-60, and describes the incorporation of the nanocrystals into the microsphere by physically swelling the microspheres so that the nanocrystals can move into the pores, but does not use interactions between the first characteristic of the nanospecies and the first characteristic of the porous material to attract the nanospecies into the pores as described in independent claims 1 and 74, respectively.

Since Chee does not describe the porous material having a first characteristic that causes the nanospecies having the first characteristic to be disposed in the pores of the porous material due to the interaction of the first characteristic of each the nanospecies and porous material, there is no motivation to combine Chee with Efros when the Office Action states that Efros teaches a coated quantum dot coated with steric acid. One skilled in the art would not look at Efros since there is no mention of the first characteristic (e.g., hydrophobic) of the nanospecies in Chee.

As a result of the discussion above, the motivation to combine described in the Office Action is not applicable. Therefore, Applicants request that the next Office Action clearly and specifically point to the column and line in the references that show motivation to combine, the suggestion to combine the elements, and the resulting structure, as well as logic for doing so. In addition, if the basis for future rejection is that the combination is generally available to one of ordinary skill in the art, Applicants request that future Office Actions direct Applicants to where this information is generally available.

For at least these reasons Applicants assert that combining of Efros with Chee is improper and the Office has not established the *prima facie* case of obviousness.

Claims 18 and 90

In addition to the arguments discussed above for claims 18 and 90 (dependent upon claim 1 and 74, respectively), the following describes additional reasons why claims 18 and 90 are allowable over the 35 U.S.C. §103 (a) rejection in which claims 18 and 90 are unpatentable over Chee in view of Damle *et al.*

In the present case, the *prima facie* case of obviousness has not been established because there is no suggestion or motivation in the art to combine Chee with Damle. Chee does not teach, disclose or suggest a hydrophobic silica material “wherein the interaction of the first characteristic of the nanospecies with the first characteristic of the porous material cause the nanospecies to interact with the porous material and become disposed in the pores of the porous material” (independent claim 1 and 74, respectively).

In addition, Chee does not teach, disclose, or suggest “a hydrophobic coated bead comprising a semiconductor quantum dot.” As mentioned above, the Office Action appears to have incorrectly applied the meanings of substrate, microsphere, and nanocrystal, as they are used in Chee, and incorrectly applied a discussion relating to the substrate and the microsphere to the microsphere and nanocrystal. Chee discusses nanocrystals in col. 15, lines 35-60, and describes the incorporation of the nanocrystals into the microsphere by physically swelling the microspheres so that the nanocrystals can move into the pores, but does not use interactions between the first characteristic of the nanospecies and the first characteristic of the porous material to attract the nanospecies into the pores as described in independent claims 1 and 74, respectively.

Since Chee does not describe the porous material having a first characteristic that causes the nanospecies having the first characteristic to be disposed in the pores of the porous material due to the interaction of the first characteristic of each the nanospecies and porous material, there is no motivation to combine Chee with Damle when the Office Action states that Damle teaches a coated quantum dot coated with octadecylamine. One skilled in the art would not look at Damle since there is no mention of the first characteristic (e.g., hydrophobic) of the nanospecies in Chee.

As a result of the discussion above, the motivation to combine described in the Office Action is not applicable. Therefore, Applicants request that the next Office Action clearly and specifically point to the column and line in the references that show motivation to combine, the suggestion to combine the elements, and the resulting structure, as well as logic for doing so. In addition, if the basis for future rejection is that the combination is generally available to one of ordinary skill in the art, Applicants request that future Office Actions direct Applicants to where this information is generally available.

For at least these reasons Applicants assert that combining of Damle with Chee is improper and the Office has not established the *prima facie* case of obviousness.

Claims 61-65

In addition to the arguments discussed above for claims 61-65 (dependent on claim 59), the following describes additional reasons why claims 61-65 are allowable over the 35 U.S.C. §103 (a) rejection in which claims 61-65 are unpatentable over Chee in view of Girot and Bawendi.

The reasons why Chee in view of Girot and Chee in view of Bawendi are each separately discussed above in detail and are applicable for the rejections of claims 61-65.

In addition to the discussion of case law above as it pertains to the burden of establishing the *prima facie* case of obviousness, the case law also states that the Office cannot pick and choose among disclosures in the cited art with the invention(s) in mind. This is impermissible hindsight reconstruction, and is also further evidence of a lack of suggestion or motivation to combine the references. *In re Fine* at 1075.

It has often been noted that, "[h]umans must work with old elements, most if not all of which will normally be found somewhere in an examination of the prior art." *Connell v. Sears, Roebuck & Co.*, 722 F2d 1542, 1549, 220 U.S.P.Q. 193 (Fed. Cir. 1983). Furthermore, that features, even distinguishing features, are "disclosed" in the prior art is alone insufficient. As indicated above, it is common to find elements or features somewhere in the prior art. Moreover, most if not all elements perform their ordained and expected function. The test is whether the claimed invention as a whole, in light of all the teachings of the references in their entireties, would have been obvious to one of ordinary skill in the art at the time the invention was made. *Id.*

In this regard, Applicants note that there must not only be a suggestion to combine the functional or operational aspects of the combined references, but that the Federal Circuit also requires the prior art to suggest **both** the combination of elements **and** the structure resulting from the combination. *Stiftung v. Renishaw PLC*, 945 Fed.2d 1173 (Fed. Cir. 1991). Therefore, in order to sustain an obviousness rejection based upon a combination of these three prior art references, the prior art must properly suggest the desirability of combining the particular elements.

Applicants respectfully assert that each of the Examiner's above arguments is a classic example of hindsight reasoning because the Office Action is picking and choosing from three different patents to find the elements of claims 61-65. In addition, the Office Action has pointed to no teaching within these three references that relates the desirability of combining the selected features. As mentioned in the case law, assuming *arguendo*, that the features are disclosed in the prior art this is not enough. Applicants submit that in light of all the teachings in their entireties, one skilled in the art would not find claims 61-65 obvious. As evidence of this, the cited references do not contain motivation to combine

the references, motivation to combine the elements, nor suggest the resulting structure of the combination as claimed in claims 61-65.

For at least these reasons Applicants assert that the Office has not established the *prima facie* case of obviousness and the rejection should be withdrawn.

Claims 66

In addition to the arguments discussed above for claims 66 (dependent on claim 59), the following describes additional reasons why claims 66 are allowable over the 35 U.S.C. §103 (a) rejection in which claims 66 are unpatentable over Chee in view of Girot and Efros.

The reasons why Chee in view of Girot and Chee in view of Efros are each separately discussed above in detail and are applicable for the rejections of claims 66.

In addition to the discussion of case law above as it pertains to the burden of establishing the *prima facie* case of obviousness, the case law also states that the Office cannot pick and choose among disclosures in the cited art with the invention(s) in mind. This is impermissible hindsight reconstruction, and is also further evidence of a lack of suggestion or motivation to combine the references. *In re Fine* at 1075.

It has often been noted that, "[h]umans must work with old elements, most if not all of which will normally be found somewhere in an examination of the prior art." *Connell v. Sears, Roebuck & Co.*, 722 F2d 1542, 1549, 220 U.S.P.Q. 193 (Fed. Cir. 1983). Furthermore, that features, even distinguishing features, are "disclosed" in the prior art is alone insufficient. As indicated above, it is common to find elements or features somewhere in the prior art. Moreover, most if not all elements perform their ordained and expected function. The test is whether the claimed invention as a whole, in

light of all the teachings of the references in their entireties, would have been obvious to one of ordinary skill in the art at the time the invention was made. *Id.*

In this regard, Applicants note that there must not only be a suggestion to combine the functional or operational aspects of the combined references, but that the Federal Circuit also requires the prior art to suggest *both* the combination of elements *and* the structure resulting from the combination. *Stiftung v. Renishaw PLC*, 945 Fed.2d 1173 (Fed. Cir. 1991). Therefore, in order to sustain an obviousness rejection based upon a combination of these three prior art references, the prior art must properly suggest the desirability of combining the particular elements.

Applicants respectfully assert that each of the Examiner's above arguments is a classic example of hindsight reasoning because the Office Action is picking and choosing from three different patents to find the elements of these claims. In addition, the Office Action has pointed to no teaching within these three references that relates the desirability of combining the selected features. As mentioned in the case law, assuming *arguendo*, that the features are disclosed in the prior art this is not enough. Applicants submit that in light of all the teachings in their entireties, one skilled in the art would not find claim 66 obvious. As evidence of this, the cited references do not contain motivation to combine the references, motivation to combine the elements, nor suggest the resulting structure of the combination as claimed in claim 66.

For at least these reasons Applicants assert that the Office has not established the *prima facie* case of obviousness and the rejection should be withdrawn.

Claims 67

In addition to the arguments discussed above for claims 67 (dependent on claim 59), the following describes additional reasons why claims 67 are allowable over the 35 U.S.C. §103 (a) rejection in which claims 67 are unpatentable over Chee in view of Girot and Damle.

The reasons why Chee in view of Girot and Chee in view of Damle are each separately discussed above in detail and are applicable for the rejections of claims 67.

In addition to the discussion of case law above as it pertains to the burden of establishing the *prima facie* case of obviousness, the case law also states that the Office cannot pick and choose among disclosures in the cited art with the invention(s) in mind. This is impermissible hindsight reconstruction, and is also further evidence of a lack of suggestion or motivation to combine the references. *In re Fine* at 1075.

It has often been noted that, "[h]umans must work with old elements, most if not all of which will normally be found somewhere in an examination of the prior art." *Connell v. Sears, Roebuck & Co.*, 722 F2d 1542, 1549, 220 U.S.P.Q. 193 (Fed. Cir. 1983). Furthermore, that features, even distinguishing features, are "disclosed" in the prior art is alone insufficient. As indicated above, it is common to find elements or features somewhere in the prior art. Moreover, most if not all elements perform their ordained and expected function. The test is whether the claimed invention as a whole, in light of all the teachings of the references in their entireties, would have been obvious to one of ordinary skill in the art at the time the invention was made. *Id.*

In this regard, Applicants note that there must not only be a suggestion to combine the functional or operational aspects of the combined references, but that the Federal Circuit also requires the prior art to suggest *both* the combination of elements *and* the structure resulting from the

combination. *Stiftung v. Renishaw PLC*, 945 Fed.2d 1173 (Fed. Cir. 1991). Therefore, in order to sustain an obviousness rejection based upon a combination of these three prior art references, the prior art must properly suggest the desirability of combining the particular elements.

Applicants respectfully assert that each of the Examiner's above arguments is a classic example of hindsight reasoning because the Office Action is picking and choosing from three different patents to find the elements of these claims. In addition, the Office Action has pointed to no teaching within these three references that relates the desirability of combining the selected features. As mentioned in the case law, assuming *arguendo*, that the features are disclosed in the prior art this is not enough. Applicants submit that in light of all the teachings in their entireties, one skilled in the art would not find claim 67 obvious. As evidence of this, the cited references do not contain motivation to combine the references, motivation to combine the elements, nor suggest the resulting structure of the combination as claimed in claim 67.

For at least these reasons Applicants assert that the Office has not established the *prima facie* case of obviousness and the rejection should be withdrawn.

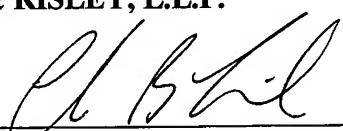
CONCLUSION

Applicants respectfully request that this application and all presently pending claims be allowed to issue. If the Examiner has any questions or comments regarding Applicants' response, the Examiner is encouraged to telephone Applicants' undersigned counsel.

Respectfully submitted ,

**THOMAS, KAYDEN, HORSTEMEYER
& RISLEY, L.L.P.**

By:



Christopher B. Linder; Reg. No.: 47,751

100 Galleria Parkway, N.W.
Suite 1750
Atlanta, Georgia 30339
(770) 933-9500